420 Plus HMI Digital Weight Indicator

Operator Card

⚠️ **Warning** *Do not open the indicator enclosure! Refer all repairs and modifications to your distributor or service technician.*

Front Panel Keypad

Figure 1 shows the *420 Plus* LED annunciators, keypad, and normal mode key functions.

The symbols shown above the keys (representing up, down, enter, left, right) describe the key functions assigned in setup mode. In setup mode, the keys are used to navigate through menus, select digits within numeric values, and increment/decrement values.

Figure 1. 420 Plus Front Panel, Showing LED Annunciators and Normal Mode Key Functions

LED Annunciators

The *420 Plus* display uses a set of eight LED annunciators to provide additional information about the value being displayed:

- •*Gross* and *Net* annunciators are lit to show whether the displayed weight is a gross or net weight.

- •Center of zero (→0←): Gross weight is within 0.25 graduations of zero. This annunciator lights when the scale is zeroed.

- •Standstill (◺◿): Scale is at standstill or within the specified motion band. Some operations, including tare functions and printing, can only be done when the standstill symbol is shown.

- •*lb* and *kg* annunciators indicate the units associated with the displayed value: lb=pounds, kg=kilograms.

- •The displayed units can also be set to short tons (tn), metric tons (t), ounces (oz), grams (g), or NONE (no units information displayed). The *lb* and *kg* LEDs function as primary and secondary units annunciators for some combinations of primary and secondary units. If neither primary nor secondary units are lb or kg the *lb* annunciator is lit for primary units, *kg* for secondary units.

- •The *Count* annunciator is lit to show that the indicator is in piece count mode.

- •The Tare Acquired (𝕋) lights to show that a tare value was entered.

Primary Unit	Secondary Unit						
	lb	kg	oz	g	tn	t	none
lb	lb / lb	lb / kg	lb / oz	lb / g	lb / kg		
kg	kg / lb	kg / kg	kg / oz	kg / g	lb / kg		
oz	oz / lb	oz / kg	oz / oz	oz / g	oz / kg		
g	g / lb	g / kg	g / oz	g / g	g / kg		
tn	lb / kg	lb / kg	lb / oz	lb / g	lb / lb	lb / kg	lb / kg
t					lb / kg	lb / lb	lb / kg
none					lb / kg	lb / kg	lb / lb

Table 1. Units Annunciators, Showing Primary / Secondary LEDs Used for All Configurations

Indicator Operations

Basic *420 Plus* operations are summarized below.

Toggle Gross/Net Mode/Piece Count
Press the **GROSS/NET** key to switch the display mode from gross to net, or from net to gross. If a tare value has been entered or acquired, the net value is the gross weight minus the tare.

Gross mode is shown by the *Gross* annunciator; net mode is shown by the *Net* annunciator.

Toggle Units
Press the **UNITS** key to switch between primary and secondary units. The appropriate units LED to the right of the display is lit.

Zero Scale
1. In gross mode, remove all weight from the scale and wait for the standstill annunciator (◣◢).
2. Press the **ZERO** key. The center of zero (→0←) annunciator lights to indicate the scale is zeroed.

Acquire Tare
1. Place container on scale and wait for the standstill annunciator (◣◢).
2. Press the **TARE** key to acquire the tare weight of the container. Net weight is displayed and the (T) annunciator lights to show the tare value was entered

Enter Tare (Keyed Tare)
1. Use the numeric keypad to enter the tare value, then press the **TARE** key.
2. Net weight is displayed and the (T) annunciator lights to show the tare value was entered.

Remove Stored Tare Value
1. Remove all weight from the scale and wait for the standstill annunciator (◣◢).
2. Press the **TARE** key. The (T) annunciator goes off, indicating the tare value has been removed.

> **Note** *Indicators with the REGULA parameter set to NONE or NTEP (see Section 3.2.5 on page 22) can clear a stored tare value using the following procedure:*

1. Press **DISPLAY TARE** to show the stored tare value.
2. Press the **CLEAR** key twice to remove the stored tare.

Acquire Parts Sample
1. Place empty parts container on scale. Wait for the standstill annunciator (◣◢), then press **TARE** to acquire the tare weight of the container.
2. Press **MODE (GROSS/NET)** key to enter piece count mode.
   Press the **CLEAR** key to exit.
3. Press the **SAMPLE** (**UNITS**) key to enter sample acquisition mode.

The indicator display shows the message *Addnnn*, where *nnn* is the sample quantity to be placed on the scale. You can do one of the following:

- Add the number of parts shown.
- Choose a different sample size. Press the **SAMPLE** key to scroll through the selectable sample quantities (5, 10, 20, 50, 100) or use the numeric keypad to specify a custom sample size.

•Specify a known piece weight. Press the **SAMPLE** key to scroll through the selectable sample quantities until the *PC WGT* prompt is shown. Use the numeric keypad to enter the piece weight.

4. Once the sample quantity is on the scale, press **ENTER** to calibrate the indicator for counting the new parts. If a sample size was specified, the indicator display shows the message *–CNT–* as it acquires the sample weight, then switches to count display mode and shows the part quantity. If a known piece weight was specified, the display switches to count display mode immediately.

Display Part Weight
To view gross and net weight parts, press **MODE** to switch from count display mode to normal weighing mode. To view the current piece weight while in count mode, press **DISPLAY TARE** key

Display Accumulator
Hold the **(MODE) GROSS/NET** key for three seconds to display the accumulated value if enabled in configuration.

The accumulated value will be displayed for about 10 seconds. To clear the accumulator, press the **CLR** key twice while the accumulated value is being displayed.

Display or Change Time
To display the date, press the **TIME/DATE** key once; press **TIME/DATE** a second time to display the time.

To set the date, press the **TIME/DATE** key once. Use the numeric keypad to enter the date, then press the **ENTER** key. Use the numeric keypad to enter the date in the same format configured for the indicator: *MMDDYY*, *DDMMYY*, or *YYMMDD*.

To set the time, press the **TIME/DATE** key twice. Use the numeric keypad to enter the time in 24-hour format, then press the **ENTER** key.

Note *The time and date is backed up with the battery. If the main power is interrupted, time/date should not be lost.*

Display or Change Setpoint Value
To display a setpoint value, use the numeric keypad to enter the setpoint number, then press the **SETPOINT** key. Or, you can display a setpoint value by pressing the **SETPOINT** key a number of times equal to the setpoint number. For example, to display the value of setpoint 2, press the **SETPOINT** key two times.

The current value will display, use the numeric keypad to enter the new value and press the **ENTER** key. This will bring you back to the TRIP submenu. To exit and save, press the **UNITS** (◁) and **PRINT** (▷) keys and **ZERO** (△) and **GROSS/NET** (▽) to navigate to the CONFIG menu. Press △ to exit and save. Use Figure 3-11, "Setpoint Menu," on page 24 to navigate the menus.

Turn Setpoint On or Off
To turn a setpoint on or off at the front panel, press the **SETPOINT** key a number of times equal to the setpoint number (for example, for setpoint number 2 press the **SETPOINT** key two times). Press **TARE** to exit value input mode and go left to *ENABLE* and use the down arrow key to select *On* or *Off*. At this point if the setpoint is on, you can turn it off by using the right or left arrow keys.

Print Ticket
1. Wait for standstill annunciator (◣ ◢).

2. Press the **PRINT** key to send data to the serial port.

Enter New ID
1. Ensure digital input 1 or digital input 2 is configured for NEWID.

2. Activate the digital input.

3. Once activated, the digital input will go into ID mode.

4. Enter the ID using the numeric keypad and press **TARE**.